

Application No. 10/564,072
Amdt. Dated May 26, 2009
Reply to Office action of November 26, 2008

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of the claims in the application.

Listing of Claims:

Claim 1 (currently amended): A seal for sealing around a torque transmitting joint between a driving member and a driven member which are operably connected so that torque is transmitted through the joint from the driving member to the driven member, said seal being one which accommodates changes in alignment between the driving member axis and the driven member axis, said seal comprising

a first seal ring having an inner sealing surface that abuts and forms a *sliding* seal with an outer surface of the driving member,

a second seal ring having an inner sealing surface that abuts and forms a seal with an outer surface of the driven member [(.)],

each of said first and second seal rings having a curved outer sealing surface,

means operable to prevent one of said first and second seal rings from sliding axially in either direction along the outer surface of the driving member or of the driven member,

a housing which extends entirely around the joint, said housing having a first open end with a first housing seal ring having a first housing seal ring surface and a second open end with a second housing seal ring with a second housing seal ring surface, said first housing seal ring surface having a curvature that is complementary to the curvature of the curved outer sealing surface of said first seal ring, and forms therewith a partial ball and socket joint, in which said seal ring is held captive within said first housing seal ring, said second housing seal ring surface having a curvature that is complementary to the curvature of the curved outer sealing surface of said second seal ring, and forms therewith a partial ball and socket joint, in which said second seal ring is held captive within said second housing seal ring, said housing being inflexible to the extent that, in service, said

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ball and socket relationships are maintained, and axial displacement between said first and second seal rings, and said first and second housing seal ring surfaces, respectively, is substantially prevented while said housing can pivot relative to said seal rings.

Claim 2 (Currently amended): [[A]] The seal [[as]] claimed in claim 1 wherein the other one of said first and second seal rings is slidable axially along the outer surface of the driving member or of the driven member.

Claim 3 (Withdrawn – currently amended): [[A]] The seal [[as]] claimed in claim 2 wherein said one of said first and second seal rings has an annular recess in which a complementarily shaped protrusion on the driving member or on the driven member is received to prevent axial sliding movement of that seal ring relative to the driving member or the driven member.

Claim 4 (Withdrawn – currently amended): [[A]] The seal [[as]] claimed in claim [[3]] 1 wherein both of said first and second seal rings have annular recesses, and a complementarily shaped protrusion on the driving member is received in one of the recesses to prevent axial sliding movement of that seal ring relative to the driving member, while a complementarily shaped protrusion on the driven member is received in the other of the recesses to prevent axial sliding movement of that seal ring relative to the driven member.

Claim 5 (Currently amended): [[A]] The seal [[as]] claimed in claim [[2]] 1 wherein said one of said first and second seal rings has an annular protrusion which is received in a complementarily shaped recess on the driving member or on the driven member to prevent axial sliding movement of that seal ring relative to the driving member or the driven member.

Claim 6 (Withdrawn – currently amended): [[A]] The seal [[as]] claimed in claim 5 wherein both of said first and second seal rings have annular protrusions, and a complementarily shaped recess on the driving member is received in one of the recesses to prevent axial sliding movement of

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that seal ring relative to the driving member, while a complementarily shaped recess on the driven member is received in the other of the recesses to prevent axial sliding movement of that seal ring relative to the driven member.

Claim 7 (Currently amended): A seal for sealing around a torque transmitting joint between a driving member and a driven member, said seal comprising,

a first seal ring having an inner sealing surface for forming a seal with an outer surface of the driving member,

a second seal ring having an inner sealing surface for forming a seal with an outer surface of the driven member,

each of said first and second sealing rings having a curved outer sealing surface and a non-flexible housing having

a first open end having a first housing seal ring surface sealingly engageable with said first seal ring outer sealing surface, said first open end of said housing being pivotally supported on said first seal ring said first housing seal ring surface having a curvature that is complementary to the curvature of the curved outer sealing surface of said first seal ring, and forms therewith a partial ball and socket joint, in which said seal ring is held captive within said first housing seal ring, and

a second open end having a second housing seal ring surface sealingly engageable with said second seal ring outer sealing surface, said second open end of said housing being pivotally supported on said second seal ring said second housing seal ring surface having a curvature that is complementary to the curvature of the curved outer sealing surface of said second seal ring, and forms therewith a partial ball and socket joint, in which said second seal ring is held captive within said second housing seal ring, said housing being inflexible to the extent that, in service, said ball and socket relationships are maintained, and axial displacement between said first and second seal rings, and said first and second housing seal ring surfaces, respectively, is substantially prevented while said housing can pivot relative to said seal rings.

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Claim 8 (Currently amended): [[A]] The seal [[as]] claimed in claim 7 wherein one of said first and second seal rings is slidable axially along the outer surface of the driving member or of the driven member.

Claim 9 (Withdrawn – currently amended): [[A]] The seal [[as]] claimed in claim 8 wherein the other one of said first and second seal rings has an annular recess in which a complementarily shaped protrusion on the driving member or on the driven member is received to prevent axial sliding movement of that seal ring relative to the driving member or the driven member.

Claim 10 (Withdrawn – currently amended): [[A]] The seal [[as]] claimed in claim [[9]] 7 wherein both of said first and second seal rings have annular recesses, and a complementarily shaped protrusion on the driving member is received in one of the recesses to prevent axial sliding movement of that seal ring relative to the driving member, while a complementarily shaped protrusion on the driven member is received in the other of the recesses to prevent axial sliding movement of that seal ring relative to the driven member.

Claim 11 (Currently amended): [[A]] The seal [[as]] claimed in claim 8 wherein the other one of said first and second seal rings has an annular protrusion which is received in a complementarily shaped recess on the driving member or on the driven member to prevent axial sliding movement of that seal ring relative to the driving member or the driven member.

Claim 12 (Withdrawn – currently amended): [[A]] The seal [[as]] claimed in claim [[11]] 7 wherein both of said first and second seal rings have annular protrusions, and a complementarily shaped recess on the driving member is received in one of the recesses to prevent axial sliding movement of that seal ring relative to the driving member, while a complementarily shaped

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recess on the driven member is received in the other of the recesses to prevent axial sliding movement of that seal ring relative to the driven member.